UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

JUN 21 2013

Ref: 8EPR-N

James M. Sparks, Field Manager
Billings Field Office
Bureau of Land Management
c/o Carolyn Sherve-Bybee
5001 Southgate Drive
Billings, MT 59101

Re: Billings and Pompeys Pillar National Monument Draft Resource Management Plan and Environmental Impact Statement CEQ #20130079

Dear Mr. Sparks:

In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609, the U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Bureau of Land Management's (BLM) Billings and Pompeys Pillar National Monument Draft Resource Management Plan and Environmental Impact Statement (Draft RMP/EIS) as prepared by the Billings Field Office (BiFO). We appreciated the opportunity to work closely with the BLM prior to the public release of the Draft RMP/EIS. This collaboration has allowed us to work through a number of issues, particularly regarding air resources, and to come to agreement on how to address them. It is evident from our review that the BLM put extensive effort into clarifying and ultimately improving this draft. In providing the following comments, we remain committed to working with the BLM to seek ways to address them.

Background

The Billings and Pompeys Pillar National Monument Planning Area (Planning Area) consists of approximately 10.8 million acres mostly in Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, and Yellowstone Counties, Montana, with a small portion in Big Horn County, Wyoming. The Planning Area also includes lands of the Crow Indian Reservation, and the Northern Cheyenne Reservation is directly adjacent to the east. Of the total Planning Area acreage, about 434,150 surface acres and 1.8 million mineral acres are administered by BLM. We understand that this consolidated RMP will result in a Record of Decision (ROD) for the BiFO and a separate ROD for Pompeys Pillar National Monument.

Alternatives identified in the Draft RMP/EIS include: Alternative A (No Action), Alternative B (emphasis on resource conservation), Alternative C (emphasis on commodity production, motorized recreational access, and services), and Alternative D – the BLM's Preferred Alternative (balance between long-term resource conservation with commodity production, recreational access, and services).

The EPA's Comments and Recommendations

Given the potential development within the Planning Area and the existing conditions of air and water resources, the EPA is particularly interested in the BLM's approach to ensuring protection of these valuable resources. The EPA's comments, along with recommendations for how the BLM might address them, are specific to the following issues: (1) air resources; (2) groundwater resources; (3) surface water resources; (4) public drinking water supply sources; (5) wetlands, riparian areas and floodplains; (6) water management and water resource monitoring; (7) Wild and Scenic Rivers; (8) environmental justice; and (9) climate change.

(1) Air Resources

Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions through NEPA

The U.S. Department of Interior, the U.S. Department of Agriculture and the EPA signed the "Memorandum of Understanding (MOU) Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions through the National Environmental Policy Act Process" on June 11, 2011. The BLM Montana Office has done an excellent job of implementing this MOU and coordinating the associated Air Quality Technical Workgroup (AQTW) members since February of 2012. We believe the collaboration among the federal and state agencies participating in the AQTW has ensured that effective and efficient NEPA air quality evaluations have occurred and will continue to do so moving forward and that air quality will be protected. Since many of our comments already have been addressed through the AQTW, our remaining comments below are intended to provide clarification to the Draft RMP/EIS and supporting documents.

Disclosure of Current SO_2 Conditions and Potential Impacts

Chapter 3, Figure 3-2 provides ambient air quality concentrations in the Planning Area for years 2009-2011. Although data are included for the 1-hour and 24-hour SO_2 National Ambient Air Quality Standards (NAAQS), footnotes 13 and 14 seem to indicate that 3-hour and annual data are also available. We recommend including the 3-hour and annual data in this Figure. In addition, the 1-hour SO_2 concentration presented in Figure 3-2 is at 105% of the NAAQS. On p. 3-9, it is noted that the Montana Department of Environmental Quality (MDEQ) reported high monitored 1-hour SO_2 concentrations during 2010 due to "events that are not likely to be repeated in future years." We recommend expanding this discussion to explain these "events" and why they would not be repeated.

BLM conducted near-field modeling to disclose potential impacts to the NAAQS in the Planning Area. However, it appears that the 3-hr SO_2 NAAQS analysis was omitted from the near-field modeling runs for the Draft RMP/EIS although it was included in the modeling protocol agreed to through the AQTW. Given the presence of the Laurel SO_2 Nonattainment Area within the Planning Area, it is particularly important that BLM disclose potential impacts to the 3-hr SO_2 NAAQS.

Appendix T, Air Resource Management Plan (ARMP)

The Draft RMP/EIS, Appendix T, includes an ARMP for oil and gas activities that describes the air resource adaptive management strategy to be used to assess future air quality and air quality related

values (AQRVs) and to identify mitigation measures to address unacceptable impacts associated with future oil and gas development. ARMP Section 6.1 describes initial mitigation measures that will be applied upon issuance of the ROD through leasing documents and project-specific NEPA documents. We fully support these initial mitigation actions and commend the BLM for its efforts to protect air quality from the outset.

The Air Resources Technical Support Document (ARTSD), p. 6, states that Tier 4 emission standards were assumed in the Draft RMP/EIS near-field modeling analysis in order to demonstrate compliance with the 1-hr NO_2 NAAQS. We note that the ARMP, Section 6.1, initial mitigation requirement for diesel drill rig engines >200 hp to meet Tier 4 emission standards for non-road diesel engines indicates that "oil and gas operators may use drill rig engines that exceed Tier 4 emission standards if modeling demonstrates compliance with the NAAQS and protection of AQRVs." We assume that this caveat means that additional near-field modeling will be required at the project-level if higher-emitting engines will be used. We recommend the Final RMP/EIS and ROD include this commitment.

We also note an inconsistency between the ARMP and ARTSD. The ARMP Section 6.1 includes an initial mitigation measures list which does not include a requirement for drill and completion engines >750 hp to meet Tier 4 generator set emission standards even though this was the emission rate used in the near-field modeling exercise (see the ARTSD, p. E-13, for modeled drill rig emission calculations). Based on conversations between our staffs, we understand that BLM's near-field modeling analysis included the Tier 4 generator set emission rate for engines > 750 hp in order to be representative of what is currently happening in the field (based on BLM experience), and that BLM does not believe requiring Tier 4 generator set emission standards for engines >750 hp is necessary to demonstrate compliance with the 1-hour NO_2 NAAQS. To disclose BLM's intent, we recommend that the Final RMP/EIS include the following:

- Clarification regarding which mitigation measures were necessary to ensure compliance with the NAAQS; and
- An explanation as to why BLM believes requiring drill and completion engines >750 hp to meet Tier 4 generator set emission standards is not necessary to demonstrate compliance with the 1-hour NO_2 NAAQS.

In addition, the ARMP Section 6.2, Monitoring-Based Mitigation, indicates that prior to completion of the photochemical grid modeling (PGM) analysis, monitoring-based thresholds for determining enhanced mitigation would be based on evaluation of monitored exceedances of the NAAQS. However, in the discussion of modeling-based thresholds for evaluating enhanced mitigation (Section 6.3), it is stated that "potential future impacts" on NAAQS or Montana Ambient Air Quality Standards (MAAQS) will be considered. To provide clarity regarding the trigger and consistency within the ARMP, we recommend replacing this language with "NAAQS or MAAQS exceedances" predicted via future PGM.

Further, Section 1.5 of the ARMP includes a detailed discussion of requirements for oil and gas activities that were developed through the 2008 Montana Statewide Oil & Gas EIS (Statewide), some of which are being integrated into the BiFO ARMP. We note that two of the Statewide requirements that are not "carried forward" into this ARMP are requirements to (1) maximize the number of wells connected to each compressor and (2) utilize natural gas fired or electrical compressors or generators. We recommend that BLM provide its rationale for discontinuing these emission-reducing requirements.

Finally, we recommend the following edits to the Draft ARMP to clarify terminology and/or to reflect recent discussions of the AQTW:

- ARMP pp. T – 11-12: We understand that BLM intends to run the PGM to cover the full 20 year planning cycle of the RMP rather than performing an initial PGM run followed by periodic reassessments as described in Section 5.1.2 on p. T-12. We recommend revising the text to clarify this point. In addition, we recommend revising Table 2, p. t-11 to include time in the schedule for the AQTW to review results from emissions modeling.
- Section 6.2.3 indicates that following PGM completion, BLM would calculate design values for each pollutant monitored at a federal reference monitor within the Planning Area. For completeness, we suggest revising this language to include federal equivalent method monitors since data from these monitors could be used in an identical fashion to the data collected from federal reference monitors.
- Section 6.2.4: After the PGM is completed, we recommend a 1-year timeline for implementation of measures after selection of enhanced mitigation, similar to the timeline provided for implementation of enhanced mitigation measures prior to PGM completion (see Section 6.2.2: "Selected mitigation measures would be implemented within one year after the BLM decision to apply additional mitigation").

Appendix Y, Emissions Inventories

Appendix Y, Emissions Inventories, provides slightly different emissions inventory totals as compared to those presented in the ARTSD. In particular, the PM_{10} and $PM_{2.5}$ emissions associated with Oil and Gas development appear more substantive. We recommend reconciling the two documents or explaining the differences.

Air Resource Technical Support Document

It is important that the emissions controls and mitigation measures used to develop the emissions inventory be included as required mitigation measures for activities under the RMP. The alternative-specific emissions inventory includes an 84% control efficiency of gravel or scoria surfacing for calculating dust emissions. The ARTSD, p. 6, identifies assumptions used in this emissions inventory, including a 50% fugitive dust control efficiency but no mention of this 84% control with gravel or scoria. If 84% surfacing control was used in the near-field modeling, then we recommend that this control efficiency be added to the identified assumptions on p. 6 of the ARTSD and that gravel/scoria surfacing be added to the initial mitigation list of the ARMP, Section 6.1.

In addition, we have a few recommendations for clarification of the ARTSD, as follows:

- pp. 14-15 – Figure 1 illustrates the well pad and receptor layout for PM_{10} and $PM_{2.5}$ modeling. Please clarify whether this same receptor layout was used for the other criteria pollutants.
- p. 19 - Predicted criteria air pollutant concentrations were compared to the NAAQS, MAAQS, and Prevention of Significant Deterioration increments. For disclosure purposes, we recommend the annual comparisons for the NAAQS and MAAQS be discussed in this paragraph.

(2) Groundwater Resources

Groundwater Resource Characterization

The Draft RMP/EIS, Chapter 3, Affected Environment, notes that groundwater is a valuable resource in Montana and is the primary source of drinking water for Montanans who live outside city boundaries or who use public water systems in smaller towns, as well as the primary source of water in streams and rivers during fall and winter "baseflow" periods. Given the potential and existing groundwater use in the region, it is important to characterize the groundwater resources within the Planning Area. We recommend expanding the discussion in the Final RMP/EIS to include the following information:

- A description of all aquifers in the study area, noting which aquifers are Underground Sources of Drinking Water (USDWs). Federal Safe Drinking Water Act regulations define a USDW as an aquifer or portion thereof: (a)(1) which supplies any public water system; or (2) which contains a sufficient quantity of ground water to supply a public water system; and (i) currently supplies drinking water for human consumption; or (ii) contains fewer than 10,000 mg/l total dissolved solids; and (b) which is not an exempted aquifer (See 40 CFR Section 144.3);
- Maps depicting the location of sensitive groundwater resources such as: municipal watersheds, source water protection zones (available from the Montana Department of Environmental Quality-MDEQ, Joe Meek, see contact information below), sensitive aquifers, and recharge areas; and
- A description of and locations of groundwater use (e.g., public water supply wells, domestic wells, springs, and agricultural and stock wells).

The Draft RMP/EIS states that no current, comprehensive quantification or quality measurements have been made for groundwater in the Planning Area. Page 3-39 notes that "the following guidance" sets forth foundations for BLM management of aquatic resources, but no discussion of such guidance follows. We recommend the Final RMP/EIS include disclosure of any future plans for gathering groundwater data in the Planning Area and discussion of the referenced guidance.

Groundwater Impacts and Mitigation

The EPA recommends that the Final RMP/EIS analyze potential impacts to groundwater quality and quantity related to oil and gas well drilling, including leaks and spills; associated production and disposal of produced water, including potential use of pits, underground injection control (UIC) wells, and evaporation ponds; impacts associated with production wellbore integrity and pipeline use; and impacts associated with restimulation and abandonment of existing wells. The EPA also recommends that the Final RMP/EIS discuss measures the BLM will require at the project level to minimize the potential for these impacts to occur. Appropriate groundwater protection measures can vary depending on hydrologic conditions and the presence of drinking water resources. Depending on the level of oil and gas development, lease stipulations may be necessary due to the disproportionate effect on water resources from such development. Specifically, the EPA recommends that BLM analyze and disclose potential groundwater protection, monitoring and mitigation measures, including:

- BMPs and other mitigation measures such as closed loop drilling, monitoring of water quality and water levels, closure and monitoring of reserve pits, and lining and monitoring of evaporation ponds;

- Setback stipulations, such as No Surface Occupancy (NSO), to minimize the potential for impacts to potential drinking water resources, including domestic water wells and public water supply wells. EPA recommends a minimum 500-foot setback for private wells. Setbacks are effective health and environment protection tools because they provide an opportunity for released contaminants to attenuate before reaching a water supply well. They may also afford an opportunity for a release to be remediated before it can impact a well, or for an alternate water supply to be secured. We note that the North Dakota Oil and Gas Commission has adopted a 500-foot setback from occupied dwellings (and by default, the associated domestic well);
- A mitigation plan for remediating future unanticipated impacts to drinking water wells, such as requiring the operator to remedy those impacts through treatment, replacement, or other appropriate means; and
- A general production well schematic that depicts the following: casing strings; cement outside and between the various casing strings; and the relationship of the well casing design to potentially important hydro-geological features such as confining zones and aquifers or aquifer systems that meet the definition of a USDW. Discuss how the generalized design will achieve effective isolation of USDWs from production activities and prevent migration of fluids of poorer quality into zones with better water quality.

(3) Surface Water Resources

Surface Water Resource Characterization

According to the Draft RMP/EIS, the BiFO manages approximately 1,000 miles of perennial, intermittent, and ephemeral streams. The EPA recommends the Final RMP/EIS describe the current water quality conditions, if available, for each surface water body in the Planning Area, including perennial, intermittent and ephemeral streams, rivers, lakes, reservoirs, and surface water drinking water sources.

The EPA also recommends the Final RMP/ EIS disclose the following information:

- A map and list of Clean Water Act (CWA) impaired or threatened water body segments within, or downstream of, the Planning Area, including the designated uses of the water bodies and the specific pollutants of concern;
- A map of municipal watersheds and designated source water protection zones; and
- Maps and descriptions of topography and soils, specifically steep slopes and fragile or erodible soils, especially near surface waters and intermittent/ephemeral channels.

We recommend that the Final RMP/EIS be updated to reference Montana's 2012 Clean Water Act (CWA) Section 303(d) Impaired Waters List, as approved by the EPA, and discuss water quality trends to more fully describe current conditions in, and downstream of, the Planning Area. We recommend this discussion include a description of any Total Maximum Daily Loads completed by MDEQ for streams in the Planning Area. In addition, if MDEQ has not assessed the water quality in all waterbodies within the Planning Area, then we recommend that the Final RMP/EIS list such waterbodies and indicate that the water quality condition has not yet been assessed by MDEQ.

Sediment Load Analysis

The Draft RMP/EIS notes that increased sediment from surface disturbance may degrade water quality. Because sediment loading has already caused impairment of waterbodies in the Planning Area, and future activities that may be authorized under this RMP, including oil and gas development, livestock grazing and use of off-highway vehicles (which is expected to double by 2015), would result in surface disturbance that may contribute to erosion impacting watersheds, it is important the Final RMP/EIS include additional information about this concern. It is difficult to determine from the Draft RMP/EIS, Chapter 3, Affected Environment, whether the Planning Area contains sensitive soils, but it does note that some soils in the Planning Area have high susceptibility to erosion. Because erodible soils could represent a source of pollutants in the Planning Area, we recommend the Final RMP/EISEIS include a map depicting areas of steep slopes and fragile or erodible soils and proximity to surface waters.

Surface Water Impacts and Mitigation

Contaminants from surface events such as spills, pit and pipeline leaks, and nonpoint source runoff from surface disturbance have the potential to enter and impact surface water resources if these events occur in close proximity to water bodies. If surface activities are set back from the immediate vicinity of surface water, wetlands, and designated source water protection zones, then there is an opportunity for accidental releases to be detected and remediated before impacts reach water resources. If accidental releases are not detected, the setback provides a safety factor and some possibility of natural attenuation. Setbacks also help prevent nonpoint source pollutants such as sediments from impacting surface waters.

Oil and Gas Leasing Stipulations to Protect Water Resources: The Draft RMP/EIS includes two different descriptions of the water resource protections provided by the Preferred Alternative through oil and gas leasing stipulations. Specifically, the Draft RMP/EIS Chapter 2, p. 2-49, and Chapter 4, p. 4-101, describe the Preferred Alternative to include a NSO stipulation within 300 feet of riparian areas, wetlands, 100 year floodplains, waterbodies and perennial streams. However, Appendix C, Oil and Gas Stipulations, indicates that the Preferred Alternative proposes the following stipulations: NSO - "Surface occupancy and use is prohibited within perennial or intermittent streams (as indicated by obligate wetland species or hydric soils); lakes, ponds, and reservoirs; floodplains; wetlands; and riparian areas." In addition, a Controlled Surface Use (CSU) stipulation is proposed to ensure that special operating procedures are required within 300 feet of riparian and/or wetland areas. We recommend that the inconsistency be resolved in the Final RMP/EIS and also suggest several modifications to enhance and clarify the water resource protections.

If the Appendix C proposed stipulations are the intended version:

- We recommend against using "obligate wetland species or hydric soils" as indicators for intermittent streams, since this will result in an unnecessarily narrow definition of intermittent stream that would likely result in excluding many of these streams from protection.
- We recommend further clarification of the "streams" language by including ephemeral streams in the list of water resources to be protected by the NSO stipulation. This is important because the Draft RMP/EIS identifies 1,002 miles of perennial, intermittent, and ephemeral streams in the Planning Area.
- We recommend clarifying the NSO language to be applicable to "100-year floodplains" in order

to provide certainty for operators.

- We recommend removing the exceptions clause from the NSO stipulation given the importance of preventing disturbance within water bodies and wetland areas. In reviewing numerous oil and gas leasing stipulations contained in other BLM EISs, we have not seen an exception process to allow drilling *within* water bodies or wetlands. It is our understanding that a "no exceptions approach" within a water body or wetland is BLM's standard procedure.

In addition, the EPA recommends BLM consider revising the Appendix C Preferred Alternative CSU setback for riparian and wetland areas to a *500 foot* NSO setback for perennial, intermittent and ephemeral streams, lakes, ponds, reservoirs, riparian and wetland areas. Other BLM Field Offices have required a 500 foot setback to minimize potential deterioration of water quality and to maintain natural hydrologic function of stream channels, stream banks, floodplains, and riparian communities (e.g., see Grand Junction Field Office Draft RMP/EIS, NSO-1, Major River Corridors; NSO-2, Streams/Springs). We also recommend adding "springs" to the list of water resources protected by these stipulations in order to maintain proper function of these susceptible resources (e.g., see Grand Junction Field Office, NSO-4, Lentic Riparian Areas – which includes springs, seeps and fens).

If the Preferred Alternative NSO stipulation proposed in Draft RMP/EIS Chapters 2 and 4 is the intended version, then we support this more protective proposal. We recommend expanding it to a 500 foot NSO setback for perennial, intermittent and ephemeral streams, lakes, ponds, reservoirs, riparian and wetland areas, as described in the paragraph above and as has been done in other BLM Field Offices.

Potential Measures to Protect Water Resources from Impacts Due to Grazing: Grazing has the potential to adversely impact water resources, including surface and ground waters, wetlands, streams, springs and riparian areas. BLM's Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the BLM for Montana and the Dakotas underwent NEPA analysis in 1997 and are incorporated into the relevant RMPs, including the BiFO RMP.

We understand from conversations with the BLM Miles City Field Office that BLM's process is to prepare environmental assessments to assess the effects of alternatives developed to ensure that Rangeland Health Standards are met through grazing allotment goals and objectives. If livestock grazing levels or practices are a significant factor in failing to meet Rangeland Health Standards, the BLM has committed to take action no later than the start of the next grazing year to initiate progress toward meeting the Standards. Since such action must be taken quickly, we recommend that the Final RMP/EIS include a list of potential measures that could be implemented at the project level to meet Rangeland Health Standards. This list could include measures that the BiFO has taken in the past, as well as the following suggestions:

- Require special protections for high quality wetland resources such as springs and fens. Such protections might include development of alternative water sources, fencing to exclude livestock from a spring source, and redirection of spring water to a trough for watering;
- To avoid possible infiltration of groundwater with contaminants resulting from congregation of livestock, require adequate separation between a livestock water well and a water trough or tank;
- Specify steps to protect and/or repair any existing exclusions and upland water developments, and develop new range improvements to protect water resources;

- Monitor impacts from grazing adjacent to high value water resources;
- Adjust the timing of grazing by delaying Spring turnout, increasing rotation, and focusing grazing on areas less intensely used in the previous year; and
- Develop a monitoring plan and schedule to assess effectiveness of range improvements in protecting aquatic resources.

In addition, we recommend the Final RMP/EIS identify the general features of an effective adaptive management plan that could be employed at the project level, including the following:

- Decision tree with achievable and measurable objectives to provide accountability and guide future decisions;
- Specific decision thresholds with identified indicators for each impacted resource;
- Targets that specify a desired future condition;
- Commitment to implement and fund a monitoring plan with protocols to assess whether thresholds are being met;
- Commitment to use monitoring results to modify management strategies as necessary; and
- Designated timeframes for completion of necessary management modifications.

Potential Measures to Protect Water Resources from Impacts Due to Implementation of Travel Management Plans: Appendix O, Billings Field Office Travel Management Plan, notes that within 3-5 years of issuance of the ROD for the RMP/EIS, Travel Management Plans will be developed for each of the Travel Management Areas identified through this RMP/EIS process. Based on discussion between our staffs, we understand that these Travel Management Plan decisions will be based on additional site-specific NEPA analyses. We recommend clarifying Appendix O and the Final RMP/EIS, Section 1.4.1.1, Travel Management Planning, to confirm that site-specific NEPA analyses will be conducted for individual Travel Management Plans.

(4) Public Drinking Water Supply Sources in Montana

Public Drinking Water Supply Source Characterization

In order to ensure that public drinking water supply sources (e.g., surface water sources, including groundwater under the direct influence of surface water (GWUDISW) sources, and groundwater sources) are protected from potential impacts associated with BLM-authorized activities in the Planning Area, it is important to identify where these sources are located. Therefore, the EPA recommends that the Final RMP/EIS include a map delineating source water protection areas for public water supply wells. Please contact Joe Meek, MDEQ, via the contact information below for a map of the Public Water Supply Inventory Regions in the BiFO. We also recommend identifying reservoirs that are drinking water sources and disclosing potential impacts to these sources.

Public Drinking Water Supply Source Mitigation

In order to ensure public drinking water supply sources (e.g., surface water sources, including GWUDISW sources, and groundwater sources) are protected from potential impacts associated with oil and gas leasing, the EPA recommends the following NSO language:

Municipal Supply Watersheds[1] - NSO within any of the following areas, as deemed appropriate by the BLM:

- The entire watershed; or
- Local Source Water Protection Planning Areas where delineated in a Source Water Protection Plan; or
- Surface Water Spill Response Region or Groundwater Inventory Region defined by Source Water Assessments that have been delineated or evaluated by the State.
    - Surface Water Spill Response Regions are ½-mile-wide zones (on both sides of rivers or streams, upstream of drinking water intakes. They include the water body with the surface water intake and significant tributaries, for 10 miles upstream of the drinking water intake. For lakes and reservoirs, they include a ½-mile-wide zone around the water body.
    - Groundwater Inventory Regions are based on a three-year time of travel or a fixed radius of 1,000 feet (concentric buffer) around the public water supply well.

For surface water sources, if the Municipal Supply Watersheds NSO stipulation is not deemed feasible by the BLM, then at a minimum we recommend a 1000-foot NSO or CSU setback on both sides of the river or stream, for 10 miles upstream of the intake. For lakes and reservoirs, this would include a 1000-foot NSO or CSU setback around the water body.

For groundwater and GWUDISW sources, if the Municipal Supply Watersheds NSO stipulation is not deemed feasible by the BLM, we recommend a minimum 1,000-foot CSU concentric buffer for these sources. We make this recommendation based on consultation with Joe Meek, the Source Water Protection Program Manager with the MDEQ. He may be contacted for additional information at 406-444-4806 or jmeek@mt.gov.

The EPA also recommends the BLM include a commitment in the Final EIS and ROD to provide notice to lessees regarding these important areas in the Planning Area. Lease notices for drilling within Source Water Protection (SWP) Zones of public water supplies are now being used for all wells drilled under BLM authority within SWP Zones in Utah.

(5) Wetlands, Riparian Areas and Springs

The Draft RMP/EIS indicates that although only 3.5% of the Planning Area is comprised of riparian and wetland areas, the importance of the riparian zone to water quality and quantity is recognized. With this in mind, we recommend clarifying p. 3-55 to describe "the following guidance" that is referenced for setting the foundation for BLM management of riparian habitat, function and water quality.

In addition, the Draft RMP/EIS identifies the southern portion of the Planning Area as containing a small desert region that includes several springs supporting an "invaluable" riparian zone. Springs often

[1] Forest Service Manual (FSM2542) defines Municipal Supply Watersheds to include: "surface supply watersheds, sole source aquifers, and the protection zones around wells and springs." In Montana, protection zones are known as Inventory Regions.

contain rare or unique plant and animal species in addition to being important contributors to hydrologic function. Therefore, the EPA recommends that the RMP include a commitment for further analysis of springs at the project level, including evaluation of function or condition prior to authorizing any activities in these areas. To ensure that springs, as well as perennial seeps and wetlands, are identified to facilitate their protection, we recommend delineation and marking of perennial seeps, springs and wetlands on maps and on the ground before development. Also, we note that Appendix B, Best Management Practices, identifies potential measures to protect springs. We recommend expanding the Final RMP/EIS Chapter 4 discussion of potential mitigation measures that may be applicable at the project level for oil and gas construction, drilling and production activities to prevent adverse impacts to these aquatic resources. These could include silt fences, detention ponds and other stormwater control measures. Other potential mitigation measures, including oil and gas leasing stipulations and measures to protect water resources from grazing impacts, are discussed above under Surface Water Mitigation.

(6) Water Management and Water Resource Monitoring

Water Management

Water demand associated with the drilling and completion of new wells in the Planning Area is an important consideration that will benefit from analysis and disclosure. Although the oil and gas reasonably foreseeable development (RFD) for the Planning Area is relatively low, the Draft RMP/EIS notes that (a) depletion of surface water in the Planning Area watersheds may affect major rivers, including the Yellowstone, and (b) produced water from oil and gas development may affect groundwater. We recommend that the Final RMP/ EIS include a general discussion of the following:

- Based on predicted well depths, formation characteristics, and well designs (and fracturing operations, if used), estimate a range of water demand per well developed in the Planning Area;
- Possible sources of water needed for oil and gas development; and
- Potential impacts of the water withdrawals (e.g., drawdown of aquifer water levels, reductions in stream flow, impacts on aquatic life, wetlands, and other aquatic resources).

In addition, the EPA recommends the Final RMP/EIS include a general discussion of how flow back and produced water will be managed including:

- Estimated volume of produced water per well;
- Options and potential locations for managing the produced water (i.e., UIC wells, evaporation ponds, and surface discharges);
- Possible target injection formations, formation characteristics and depth of any UIC wells; and
- Potential impacts of produced water management.

Water Resource Monitoring

A general framework for implementation and monitoring of the RMP is provided in Appendix X, Implementation and Monitoring. We recommend expanding this appendix, similar to the Miles City Draft RMP example, to include detailed monitoring measures and identification of frequency, remedial action triggers and management options. In particular, the EPA recommends that BiFO require all BLM-

authorized oil and gas multi-well projects to conduct groundwater and surface water monitoring, similar to RMP requirements included by other BLM Field Offices, e.g., White River and Grand Junction in Colorado. To that end, we recommend that the Final RMP/EIS describe the components of water resource monitoring that will be expected of new projects in the Planning Area, including how water quality monitoring will occur prior to, during, and after such development to detect impacts to both surface water and groundwater resources, including private wells. The EPA encourages BLM to include monitoring frequency expectations to ensure water quality changes are detected in a timely fashion to address any increased pollutant levels in streams and to verify expected improvements from changes in management practices. Streams could be prioritized for monitoring frequency where some streams (e.g., 303(d) listed impaired water bodies) would receive yearly or seasonal monitoring and other streams would be monitored much less frequently. Evaluations of water quality could also follow this time schedule as appropriate.

A recent example of a water quality monitoring plan is the "Long-Term Plan for Monitoring of Water Resources" developed by BLM for the Gasco Energy Inc. Uinta Basin Natural Gas Development Project Final EIS[2]. Also, the National Ground Water Association's Water Wells in Proximity to Natural Gas or Oil Development Brief[3] provides information on the importance of baseline sampling for private wells and types of analysis recommended.

(7) Wild and Scenic Rivers

Based on our review of the Draft RMP/EIS, we understand that the BLM uses the RMP process to identify and evaluate rivers for eligibility and suitability under the Wild and Scenic Rivers (WSR) Act. The BiFO developed an inventory of 14 potential river segments in the Planning Area to be considered for eligibility. Draft RMP/EIS Appendix R, Wild and Scenic Rivers, discloses how the eligibility analysis was conducted and how 7 of the 14 potential segments were determined eligible. Draft RMP/EIS, Chapter 4, Environmental Consequences, notes that the Preferred Alternative would recommend two of the eligible segments as suitable, and the other eligible segments would be determined non-suitable (and no longer afforded management protection for wild and scenic purposes). We recommend that the Final RMP/EIS disclose how the suitability analysis was conducted and how the suitability determinations were made. In addition, we recommend revising Map #165, Eligible Wild and Scenic Rivers, to include identification of segments with proposed suitability determinations.

We also recommend that the Final RMP/EIS ensure consistency between Chapter 4 and Appendix C, Oil and Gas Stipulations. Currently for the Preferred Alternative, page 4-442 identifies NSO within 0.5 mile of WSR-eligible and suitable segments, but Appendix C identifies NSO within 0.5 mile of WSR-eligible segments. We recommend using the same terminology in both sections to avoid any confusion.

(8) Environmental Justice

The Draft RMP/EIS discloses that American Indians represent nearly 9% of the population in the

---

2 http://www.blm.gov/pgdata/etc/medialib/blm/ut/vernal_fo/planning/gasco_eis/gasco_folder_6.Par.10452.File.dat/28_Gasco%20Appendix%20O.%20Long-term%20Water%20Monitoring%20Plan.pdf

3 http://region8water.colostate.edu/PDFs/Water_Wells_in_proximityNGWA2011.pdf

Montana portion of the Planning Area with a high percentage living in poverty. Depending on the county, percentages of persons living below the poverty level in the Montana portion of the Planning Area range to 24%. The Environmental Consequences chapter of the Draft RMP/EIS states that no alternative will result in identifiable disproportionate effects specific to any minority or low income population or community. To confirm this determination, we recommend additional environmental justice analysis at the project-level stage of NEPA given the demographics of the area and the potential impacts from oil and gas development.

(9) Climate Change

Pursuant to draft Council on Environmental Quality (CEQ) guidance and Executive Order 13514, BLM has included an analysis and disclosure of greenhouse gas (GHG) emissions and climate change. We note that the GHG emissions inventory does not include oil and gas emissions from "downstream" activities such as refining that will occur outside the Planning Area. Because information on these "downstream" indirect GHG emissions from activities may be of interest to the public in obtaining a complete picture of the GHG emissions associated with BLM-authorized activity in the Planning Area, it may be helpful to estimate and disclose them.

The EPA's Rating

Based on our review, the EPA is rating the Draft RMP/EIS Preferred Alternative as Environmental Concerns – Insufficient Information (EC-2). The "EC" rating indicates that the EPA review has identified potential impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the Preferred Alternative or application of mitigation measures that can reduce these impacts. The "2" rating indicates that the EPA has identified additional information, data, analyses, or discussion that we recommend for inclusion in the Final RMP/EIS. A full description of the EPA's rating system is enclosed for your convenience (see Enclosure 1).

We appreciate the opportunity to comment on this document, and hope our suggestions will assist you with preparation of the Final RMP/EIS. We would be happy to discuss these comments and our suggested solutions. If you have any questions or requests, please feel free to contact me at 303-312-6925 or Amy Platt of my staff at 303-312-6449 or by email at platt.amy@epa.gov.

Sincerely,

Suzanne J. Bohan
Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

Enclosure

ENCLOSURE 1
U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements

Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new, reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.